

Claims

- [c1] A door trim panel, comprising:
 - a cover stock;
 - an armrest coupled to the cover stock and having a first density;
 - an upper energy absorber disposed above the armrest and having a second density higher than the first density; and
 - a lower energy absorber disposed below the armrest and having a third density higher than the first density.
- [c2] The door trim panel of claim 1, wherein the second and third densities are substantially equal.
- [c3] The door trim panel of claim 1, wherein the armrest and the upper and lower energy absorbers are formed from foam.
- [c4] The door trim panel of claim 1, wherein the armrest is formed from a polyolefin bead foam.
- [c5] The door trim panel of claim 1, wherein the upper energy absorber is a polyolefin bead foam.
- [c6] The door trim panel of claim 1, wherein the lower energy

absorber is a polyolefin bead foam.

- [c7] The door trim panel of claim 1, further comprising a map pocket closeout in said lower energy absorber.
- [c8] The door trim panel of claim 1, wherein the cover stock is at least one of a textile, a polyvinyl chloride (PVC), and a thermoplastic olefin (TPO), each with a polypropylene foam backing.
- [c9] A vehicle, comprising:
 - a body including a door; and
 - a door trim panel, the door trim panel including a cover stock, an armrest coupled to the cover stock and having a first density, an upper energy absorber disposed above the armrest and having a second density higher than the first density, and a lower energy absorber disposed below the armrest and having a third density higher than the first density.
- [c10] The vehicle of claim 9, wherein the second and third densities are substantially equal.
- [c11] The vehicle of claim 9, wherein the armrest and the upper and lower energy absorbers are formed from foam.
- [c12] The vehicle of claim 9, wherein the armrest is formed from a polyolefin bead foam.

- [c13] The vehicle of claim 9, wherein the upper energy absorber is a polyolefin bead foam.
- [c14] The vehicle of claim 9, wherein the lower energy absorber is a polyolefin bead foam.
- [c15] The vehicle of claim 9, wherein the cover stock is at least one of a textile, a polyvinyl chloride (PVC), and a thermoplastic olefin (TPO), each with a polypropylene foam backing.
- [c16] The vehicle of claim 9, further comprising a map pocket closeout in said lower energy absorber.
- [c17] A method of molding a door trim panel, comprising:
 - shaping a cover stock to form a cavity;
 - filling a first portion of the cavity associated with an armrest with foam in a first density;
 - filling a second portion of the cavity associated with an upper energy absorber with foam in a second density higher than the first density; and
 - filling a third portion of the cavity associated with a lower energy absorber with foam in a third density higher than the first density.
- [c18] The method of claim 17, wherein the second and third densities are substantially equal.

- [c19] The method of claim 17, wherein the first, second and third cavities are filled with expanded polyolefin bead foam.
- [c20] The method of claim 17, wherein the cover stock is at least one of a textile, a polyvinyl chloride (PVC), and a thermoplastic olefin (TPO), each with a polypropylene foam backing.
- [c21] The method of claim 17 further comprising:
providing a map pocket closeout in said lower energy absorber.